



NC
205(j)
Grant



Creating a 9-Element Watershed Plan

Case Study: Upper Swannanoa River

Upper Swannanoa River Species of Concern

**Superb
Jewelwing**



**French
Broad Crayfish**



Hellbender



Bog Turtle



Pictures from NCWRC & NC Parks

Project Background

The Upper Swannanoa River Watershed (USRW), home to several rare plant and animal species, is a tourist destination and major economic driver for Buncombe County and the **Town of Black Mountain (TBM)**. However, development and deforestation in the area led to increased stormwater runoff, resulting in greater streambank erosion and aquatic habitat degradation. As a result, the river was added to North Carolina's 303(d) list of impaired waters in 2006 for degraded benthic macroinvertebrate community.

River Basin: French Broad

County: Buncombe

205(j) Funding: \$25,000

Total Project Cost: \$50,000

Creating & Implementing a Watershed Plan

In 2014, TBM partnered with the **Land of Sky Regional Council (LOSRC)** to create the [Upper Swannanoa Watershed Management Plan](#) with an EPA Clean Water Act Section [205\(j\) Grant](#) matched by a Pigeon River Fund Grant. The watershed plan was designed to meet all of the EPA 9 minimum elements in order to qualify for Clean Water Act Section 319 Grant funding- a watershed restoration grant administered by the NC Division of Water Resources. In addition to these elements, the plan included conceptual models and estimated costs for 17 stormwater retrofit sites, making the plan immediately actionable. Subsequently, LOSRC received a \$60,000 319 grant in 2016 to install 3 bioretention features in Black Mountain. With a watershed plan and site-specific designs in place, the TBM and other groups working in the USRW can continue to implement restoration projects with the ultimate goal of removing the Upper Swannanoa River from the impaired waters list.



EPA's 9 Minimum Elements of Successful Watershed Plans

- 1 Identify Causes and Sources
- 2 Estimate Load Reductions
- 3 Describe Management Measures & Targeted Critical Areas
- 4 Estimate Technical & Financial Assistance Needed
- 5 Develop an Information & Education Component
- 6 Develop a Project Schedule
- 7 Describe Interim, Measurable Goals
- 8 Identify Indicators to Measure Progress
- 9 Develop a Monitoring Component

[EPA Watershed Planning Handbook](#)

Upper Swannanoa River Plan Highlights

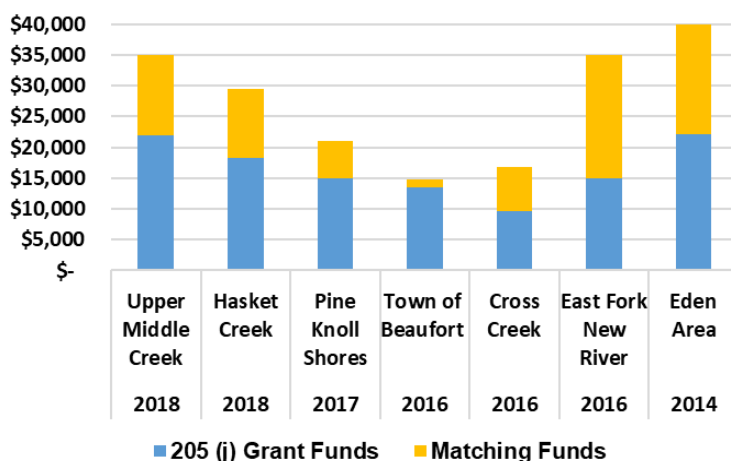
Planners used digital mapping (GIS), aerial photos, and field assessments to identify sites for **21 stormwater retrofits and 16 stream improvements**. Stormwater retrofits would improve water quality by reducing an estimated **1.9 tons of suspended sediment, 14 lbs phosphorus, 103 lbs nitrogen, and 8 lbs of zinc annually**. An additional **1,014 tons of sediment** could be reduced if the identified 31,000ft of stream channel are improved.

Planners developed a **4 pillar outreach and education strategy** to address (1) programmatic outreach, (2) local government practices/programs, (3) outreach to the business community, and (4) public stormwater management practices.

The goals of the plan are to implement the identified projects to **stabilize streambanks and reduce sediment**.

The plan proposes regular water chemistry testing and benthic monitoring by local volunteers to track trends in watershed conditions, as well as sampling by the state every 5 years to determine if the USRW is eligible for **removal from the 303(d) list**.

Costs of Similar 9-Element Watershed Plans



Learn more about the 205(j) grant on the [North Carolina Department of Environmental Quality website](#).

Similar Project Types:

- Adapting an existing watershed plan into a 9-Element Plan
- Developing a Project Atlas or SCM Design Guide for a watershed plan
- Launching an Outreach & Education Campaign for a watershed plan

General 205(j) Grant Requirements:

- Water quality management planning projects
- Council of Governments sponsor/partner
- No more than 18 months
- No match requirement

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